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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,817	01/26/2006	Sadahiko Yamamoto	36299PCTUS	9027
33769 7590 06/22/2007 BODNER & O'ROURKE, LLP 425 BROADHOLLOW ROAD, SUITE 108 MELVILLE, NY 11747			EXAMINER DINH, TRINH VO	
			ART UNIT 2821	PAPER NUMBER
			MAIL DATE 06/22/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/566,817	YAMAMOTO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Trinh Vo Dinh	2821	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>01/26/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. In the information disclosure statement filed 01/26/2006, page 2 of the Information Disclosure Citation has been found missing. The Applicant is required to submit a copy of page 2 of the IDS for Examiner's consideration.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawabata Kazuya (JP 03 068201 of record).

Kawabata discloses, in Figs. 1-11 and abstract, A patch antenna including a dielectric substrate (10), a ground conductor (14) formed on one main surface of the dielectric substrate, and a patch conductor (12) formed on another main surface of said dielectric substrate, wherein radiation efficiency is changed in a direction of wavelength-dependent length of said patch conductor. Kawabata further discloses a spacing between said patch conductor and said ground conductor (thickness of 10) is made nonuniform in said direction of wavelength-dependent length and a thickness of said dielectric substrate (10) is changed in said direction of wavelength-dependent length.

4. Claims 1 and 3-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukui Takahito (JP 2002-217638 of record).

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Respecting claims 1 and 3, Fukui discloses, in Figs. 3-5 and abstract, a patch antenna including a dielectric substrate (2), a ground conductor (3) formed on one main surface of the dielectric substrate, and a patch conductor (1) formed on another main surface of said dielectric substrate, wherein radiation efficiency is changed in a direction of wavelength-dependent length of said patch conductor, and thickness of said dielectric substrate (10) is changed in said direction of wavelength-dependent length.

Respecting claim 4, Fukui discloses, in the abstract, a dielectric constant is changed in said direction of wavelength-dependent length.

5. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujimoto Kyohei (JP 06-069717 of record).

Fujimoto discloses, in Figs. 1-4, a patch antenna including a dielectric substrate (4, 5), a ground conductor (2) formed on one main surface of the dielectric substrate, and a patch conductor (1) formed on another main surface of said dielectric substrate, wherein radiation efficiency is changed in a direction of wavelength-dependent length of said patch conductor. Fujimoto further discloses, and thickness of said dielectric substrate (4, 5) is changed in said direction of wavelength-dependent length.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claim 5, and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata or Fukui or Fujimoto (hereafter Kawabata/Fukui/ Fujimoto in view of Yabe Takakiyo (JP 05 121925 of record).

Kawabata/Fukui/ Fujimoto discloses every feature of the claimed invention except a dielectric on the patch conductor. Yabe discloses, in Fig. 1 and 5, a dielectric (15) being loaded on a patch conductor (11). It would have been obvious to one having ordinary skill in the art at the time the invention was made to form a dielectric on Kawabata/Fukui/Fujimoto's patch conductor in order to easily adjust resonant frequency in both directions without remodeling the antenna as taught in abstract of Yabe.

8. Claim 6 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata/Fukui/ Fujimoto in view of Kuriyama Toshihide (JP 2002-171190 of record).

Kawabata/Fukui/ Fujimoto discloses every feature of the claimed invention except claimed arrangement of the antenna. Kuriyama discloses, in Figs. 1-3, a cellular telephone includes a housing (1A, 1B), and a patch antenna (3A, 3B) is arranged in such a manner that said direction of wavelength-dependent length matches the direction of thickness of said housing, and that a side thereof with higher radiation efficiency is faced opposite to a side of said housing making contact with head of a person. It would have been obvious to one having ordinary skill in the art to arrange Kawabata/Fukui/Fujimoto's antenna in the manner as taught by Kuriyama. Doing so would provide the antenna with a capability of being hardly affected by any human head and improve speed quantity in both waiting and speaking states.

*Inquiry*

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh Vo Dinh whose telephone number is (571) 272-1821. The examiner can normally be reached on Monday to Friday from 9:30AM to 6:00PM. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Art unit 2821*

*June 19, 2007*

  
TRINH DINH  
PRIMARY EXAMINER